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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,585	11/28/2000	Alexander J. Dyakonov	4800-090	8519

7590 06/03/2003
RHODES & MASON, P.L.L.C.
P.O. Box 2974
Greensboro, NC 27402

EXAMINER

LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 06/03/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/723,585	Applicant(s) DYAKONOV ET AL.	
	Examiner Carlos Lopez	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 22-30, 32-40 and 46-64 is/are pending in the application.
- 4a) Of the above claim(s) 41-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 22-30, 32-40, 46-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Response to Amendment

The amendment filed on 3/24/03 has been entered as Paper No. 16. It is noted that applicant has filed newly claim 31 that was previously cancelled. Newly claim 31 has been re-numbered as claim 64.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1) Claims 22-30, 32-40, and 47-64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In example 5, the specification only provides support for a mixture of nickel and dysprosium but fails to disclose a mixture of silver and dysprosium as recited in newly amended claims 22 and 47; "metal compound including one of silver, nickel, dysprosium and combinations thereof".

In claims 26 and 51 the specification is silent disclosing a the percentage of the silver content by weight of the adsorbent as recited in claim 26 and 51; "silver is between about 4 and 10 percent of the absorbent material."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) Claims 1-3, 22-26, 28-30, 32-40, 46-51, and 53-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dale et al (US 4,317,460) in view of Wahle et al (US 4,301,816). Dale discloses catalyst for the oxidation of CO to CO₂ for use in a filter of a smoking product (Column 6, lines 57-68). A smoking product as defined by Dale may be a cigarette as disclosed in Column 1, line 4. Dale's catalyst system comprises of a metal component belonging to Groups 6-8 of the periodic table (Column 4, lines 15-50) with a support structure (deemed as the claimed absorbent material) made of a zeolite or alumina (amorphous oxide) (Bridging paragraph of Columns 4 and 5). Dale additionally teaches that the claimed adsorbent material such as granular carbon may be used in the triple filters for smoking products, wherein the middle portion contains the catalyst system or the catalyst system may be part of the whole cigarette filter (Column 6, lines 57-68). Dale is silent disclosing a cigarette having a tobacco column enveloped by a wrapper. However, it is expected that conventional cigarettes comprise of a tobacco column having a wrapper enveloping the tobacco column. Dale is silent disclosing venting holes adjacent to the absorbent material but does teach that increasing the air supply that is drawn through the mouth end of the cigarette carbon monoxide inhalation (Col. Lns. 4-13). Additionally, Wahle teaches of providing venting

holes adjacent the filter of a cigarette in order to decrease the percentage of nicotine and tar inhaled by the smoker via perforations on the tipping paper (Column 1, Lines 35-40). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to use perforated tipping paper as taught by Whale et al in order to reduce inhaled tar and nicotine in Dale et al's cigarette.

Claim 1 additionally recites a flux during the inter-puff period from the adsorbent material is created. The un-reacted or reacted carbon monoxide desorbed from the absorption material would create a flux from the adsorption material during an inter puff period. A portion of the desorbing flux released from the adsorption material would be separated from the main stream of combustion products via the perforations of the tipping paper surrounding the pump/filter during an inter puff period and/or the carbon monoxide is selectively diverted when the carbon monoxide is converted to carbon dioxide by the metal catalyst in the filter.

As for claim 22 and 50, Dale teaches that transition metals may be used as a catalyst, see col. 4 lines 35-50, thus including the claimed silver and dysprosium transition metals.

As for claim 23 and 48, the venting holes would divert some of the carbon monoxide from being inhaled.

As for claim 24 and 49, the silver and nickel in coming in contact with air provided by the venting holes would convert to silver and nickel oxides.

As for claim 29 and 54, Dale is silent disclosing the filter material of the other filters in its triple filter assembly and one of ordinary skill in the art would assume they

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are conventional filters made of conventional filter material such as those claimed by applicant. Examiner takes official notice that it is well known cellulose acetate has been used as filter material for cigarettes.

As for claims 32-33, the propensity to absorb would be dependent on the inhalation time of the smoker.

As for claims 64 (formerly newly claim 31), 34-38, and 57-58, the catalyst are supported in zeolite or aluminum and thus would be expected to act as absorbents (See bridging paragraph of col. 5-6). Additionally, the zeolite has the claimed size of 4 to 16 angstroms.

As for claim 39 and 59-63, alumina is considered amorphous.

As for claims 46 and 47, the claimed fitting is the tipping paper present in conventional cigarettes in order to join the filter element to the tobacco rod element of a filter cigarette.

Response to Arguments

Applicant's arguments filed 11/6/02 have been fully considered but they are not persuasive.

Applicant argues that neither Wahle nor Dale "carbon monoxide desorbed from the adsorbent material during an inter-puff period" and that the venting holes would divert some of the carbon monoxide. As it was previously noted that said limitations only describe the function of a filter without adding new structural limitations. It is inherent or at the least obvious that not all the oxidized carbon monoxide will remain adsorbed in the adsorbent material and some of it would be released back.

Furthermore, in view that the resulting product from derived from the teachings of Dale in view of Wahle meet the claimed structural limitations, it is deemed that is inherent or at the least obvious that not all the oxidized carbon monoxide will remain adsorbed in the adsorbent material and some of it would be released back and diverted by the venting holes.

Applicant additionally argues that Wahle et al does not provide motivation to provide venting holes that would divert mainstream smoke from the user. The claimed limitation is notoriously known in the tobacco art. As explicitly taught by Wahle, providing venting holes on the filter of a cigarette decreases the percentage of nicotine and tar inhaled by the smoker via perforations on the tipping paper (Column 1, Lines 35-40). Since both Dale et al and Wahle et al inventions are directed to decreasing the deleterious components of the tobacco mainstream smoke, it would have been obvious to a person of ordinary skill in the art to have provided venting holes to Dale cigarettes in order to further decrease the inhalation of deleterious compounds as taught by Wahle et al.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

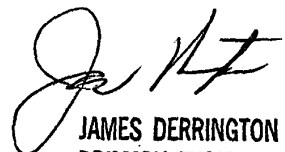
TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is (703) 605-1174. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (703) 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

C.L
May 30, 2003


JAMES DERRINGTON
PRIMARY EXAMINER
ART UNIT ~~137~~ 1731